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Results: There were no significant differences in age, sex, blood pressure, heart rate or LVEF between the AS patients and controls. The LV mass index was dramatically higher in AS patients than controls (106.3±27.5 vs. 67.4±10.5 g/m^2, P<0.001). Comparing with healthy controls, AS patients had significantly lower circulating levels of miR-1 (0.557 (0.202-0.711) vs. 0.979 (0.785-1.242), P<0.001), miR-133 (0.543 (0.469-0.651) vs. 0.947 (0.749-1.436), P<0.001) and miR-378 (0.560 (0.517-0.736) vs. 0.944 (0.627-1.610), P<0.001). In the AS group, patients with LVH had significantly lower miR-378 (0.539 (0.515-0.629) vs. 0.624 (0.549-0.903), P=0.022) but not miR-1 and miR-133 compared with those without LVH. Linear regression analysis showed circulating miR-378 had strong correlation with left ventricular mass index (r=0.283, P=0.002) and logistic regression showed that lower miR-378 was an independent predictor for LVH in patients with AS (P=0.037, OR 4.110, 95% CI 1.086-15.558).
Conclusions: Circulating levels of miR-1, miR-133 and miR-378 were decreased in AS patients, and miR-378 predicts LVH independent of the pressure gradient. Further prospective investigations are needed to elucidate whether these circulating miRs affect clinical outcome.

GW25-e0613

Clinical profile and predictors of outcomes of patients with mitral stenosis undergoing percutaneous transseptal mitral commissurotomy

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Objectives: To present the clinical, echocardiographic, and hemodynamic profile of adult patients with MS who have undergone percutaneous transseptal mitral commissurotomy from 2010 to 2013 at the Philippine General Hospital.
Methods: We conducted a retrospective study of all adults with MS who underwent PTMC from 2010-2013. Data were extracted using a standard data collection form. A successful PTMC or a favorable outcome is defined as a post- procedural hemodynamic study of a mitral valve area (MVA) >1.5cm^2 and/or a mean transmitral gradient < 5mmHg. Other outcomes measured in this study were the development or worsening of mitral regurgitation measured by hemodynamic studies, in-hospital death, and post-procedural 2D echocardiography measurements of MVA > 1.5cm^2 and mean mitral gradient <5 mmHg. Simple logistic regression was used to determine the predictors of an unfavorable outcome after PTMC.
Results: 104 patients with a mean age of 38 years old, predominantly female, were included. Majority had congestive heart failure functional class II and severe MS with a mean Wilkin's score of 7.9 by echocardiography. A successful PTMC was achieved in 89%. Having a "repeat PTMC" (ie. PTMC for the second time) was associated with an increased risk of developing an unfavorable outcome or failed PTMC [(OR 7.62, CI 1.73-33.6)]. Moderate to severe or worsening of prior mitral regurgitation determined by hemodynamic studies developed in 3%. In-hospital mortality occurred in 3%. Pre- procedural hypotension (BP < 90/60) was associated with increased risk of developing a new or worsening MR [OR 25.6, CI 1.28-516)] or death [OR 29 (CI 1.74-871)]. An MVA >1.5cm^2 was achieved in 77% and 81% of patients measured by 2D echocardiogram and hemodynamic studies, respectively. A mean transmitral gradient of < 5mmHg was achieved in 60% and 63% measured by 2D echocardiogram and hemodynamic studies, respectively.
Conclusions: The typical clinical profile of a patient undergoing PTMC at PGH was a middle-aged female with minimal co- morbidities, CHF functional class II from severe MS. We described the clinical profile and predictors of outcomes in patients who have undergone PTMC in our center. Overall outcomes were excellent, but prospective studies are recommended to evaluate hard outcomes such as functional capacity and long-term mortality.

GW25-e5252

Inhibitory Effects of Dronedarone on Small Conductance Calcium Activated Potassium Channels in Patients with Chronic Atrial Fibrillation: Comparison to Amiodarone

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Objectives: Small conductance calcium activated potassium channels (SK) were found closely related to Atrial Fibrillation (AF). Dronedarone is recently used for the patients with paroxysmal AF or after conversion of persistent AF. The purpose of this study was to confirm the inhibitory effects of dronedarone on SK as one of the potent treated targets in patients with AF.
Methods: The right atrial appendages were obtained from 21 patients with sinus rate (SR) and 18 patients with chronic AF (CAF). Single myocytes were isolated by enzymatic dissociation with two-step method. The ionic currents were recorded using whole-cell Conventional patch clamp techniques.
Results: The SK channels in patients atrial were sensitive to intracellular calcium, but voltage-independent.Similar to amiodarone, dronedarone showed a concentration-dependent inhibitory manner on SK channels current. In patients with SR, dronedarone and amiodarone inhibited the SK channel current with IC50 values of 0.23 and 6.37 microM, respectively, which were close to their therapeutic concentrations. In patients with CAF, the IC50 values were 0.09 microM with dronedarone and 2.1 microM with amiodarone.The inhibitory effects of dronedarone on SK channels were potently in CAF than in SR. Compared with amiodarone, dronedarone showed more effective inhibition on SK channels, especially during in patients with CAF.
Conclusions: Dronedarone exhibits strongly inhibitory effects on SK channels during in patients with CAF, which might be one of treated targets of dronedarone for the management of AF.

GW25-e5353

The value of echocardiography in transcatheter aortic valve implantation

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Objectives: To investigate the value of the echocardiography in pre-operative, intraoperative, and postoperative transcatheter aortic valve implantation (TAVI).
Methods: This study included 43 patients (27 males; 16 females; average ages was 74±7.2 years) with severe aortic valve stenosis who underwent successful TAVI in our hospital. The anatomy of the aortic valve, aortic annulus, ventricular function and other concerns were assessed by transthoracic echocardiography (TTE) one week before TAVI and also by transesophageal echocardiography (TEE) during TAVI. After the deployment of the prosthesis, TEE was used to ensure the position/stability of prosthesis, severity and mechanism of aortic regurgitation (AR), and to assess complications. One week post TAVI, TTE is sufficient to check the prosthesis, quantify the AR, and evaluate the changes of the ventricular function and left ventricular mass.
Results: The aortic annulus dimension (AAD) measured by RT 3D-TEE was larger and measured by 2D TEE, with no statistically significant difference. But the AAD measured by TTE was smaller than by RT 3D-TEE and 2D-TEE, with significant difference. None of the patients had cardiac tamponade and aortic dissection during TAVI. Compared with pre-TAVI, The maximum aortic valve velocity and mean aortic pressure gradient was decreased significantly after TAVI (5.2±0.5m/s vs.2.7±0.5 m/s, 67±15 mmHg vs.16±5 mmHg, respectively, P<0.05). The left ventricular ejection fraction measured by 3D TTE was increased (48.2±8.7% vs.52.0±7.5, P<0.05). And the left ventricular mass was improved (165.5±47.7 g/m^2 vs.144.0±39.2 g/m^2, P<0.05). No server AR and central AR was observed post-TAVI. 2.3% patients presented with moderate paravalvular AR, 30.2% patients with mild paravalvular AR, and 67.5% with trace or no paravalvular AR.
Conclusions: Echocardiography play an important role in pre-operative, intra-operative, and postoperative TAVI.

GW25-e2156

The impact of Klotho protein and FGF23 on degenerative heart valvular disease

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Objectives: This study aimed to evaluate the expression of Klotho protein, Fibroblast growth factor 23 (FGF23) in degenerated heart valvular disease (DHVD) patients and their role in valvular calcification.
Methods: 71 suspected DHVD hospitalized patients (aged ≥50 years) were enrolled between August 2012 and April 2013. Patients were divided into with valvular calcification (DHVD group) and without valvular calcification group (non-DHVD group) according to transthoracic echocardiographic examination. Serum calcium, phosphorus, iPTH, hs-CRP were detected. Klotho and FGF23 were detected by ELISA. Patients were followed for death or recurrent hospital admission in 32 weeks.
Results: (1) There were 39 patients with DHVD. Patients in DHVD group were older than those in non-DHVD group (73.8 vs 69.4 years, P=0.03) . There were no significant differences in coronary heart disease, hypertension, diabetes and smoking between DHVD group and non-DHVD group (P>0.05) .The levels of hs-CRP (19.06 mg/L vs 5.06 mg/L, P=0.01) , FGF23 (85.43 pg/ml vs 11.82 pg/ml, P=0.001) were higher in DHVD group than that in non-DHVD group and the results were not changed when stratified by age or glomerular filtration rate. However, there were no significant differences in the levels of Klotho protein, calcium, phosphorus and iPTH between DHVD group and non-DHVD group (all P > 0.05). (2) The survival rate were higher in non-DHVD group than that in DHVD group (100% vs 86.5%, P=0.045) . Multivariate Cox regression model was used to analyze the association between survival and clinical parameter, including age, hs-CRP, Klotho protein, FGF23, GFR, Lp (a). The levels of hs-CRP, FGF23 were identified as independent prognostic factors for survival (RR=1.033, P=0.004; RR=1.007, P=0.048, respectively).
Conclusions: The levels of FGF23 and hs-CRP in patients with DHVD were significant higher than that in non-DHVD and associated with poor clinical outcome. FGF23 may be involved in the process of the DHVD, and the mechanisms may be independent of the FGF23/Klotho axis.

GW25-e3356

Prevalence of Calcific Aortic Valve Disease in Southern China: A retrospective echocardiographic study

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